INSTRUMENTS

5/24/01

Installation and Operating Instructions
RKI Model PS-2 gas Monitor

This Monitor is calibrated as follows:

Gas_____
Alarm 1 level_____
Alarm 2 level_____

Thank you for selecting our the RKI Model PS-2 gas monitor for your gas monitoring needs. With proper installation and care, it will provide you with many years of trouble-free operation.

Description:

The Model PS-2 is a multipurpose gas monitor utilizing a Metal Oxide sensor for long life and low maintenance detection of many gases and solvents. The instrument is powered by either 115 VAC or 24 VDC, (48 VDC version also available). It consists of a plastic enclosure with flanges provided for wall mounting. Holes are provided on the base of the housing for wiring entry, and the unit is supplied with the gas sensor located on the end of a 30 foot cable. The PS-2 has two alarm levels, calibrated to the gas and concentrations given above. Each alarm level activates a 10 amp relay inside the unit, and terminals are provided for wiring the relay to activate an external alarming device or activate some other device such as a ventilation fan. The front of the unit contains three lights; Pilot, Alarm 1, and Alarm 2. An internal audible alarm is also provided which activates for a gas alarm condition.

When you receive your PS-2, it will consist of 3 parts:

1. The main unit with sensor cable attached.
2. The lid, which will be placed on the unit but will not be screwed down.
3. A bag of parts which include the 2 mounting flanges, 10 screws for the mounting flanges and the lid, 3 strain relief bushings for use during installation for the wires entering the case, and 4 small plastic caps to press over the front screwholes for cosmetics when the installation is completed.

Installation :

1. Remove the parts from the box and with the screws provided install the 2 mounting flanges on the top and bottom rear of the instrument enclosure.

2. Using the mounting flanges, install the monitor on a wall within 30 feet of the area to be monitored.

3. Using the 3 holes provided on the base of the unit, and the strain reliefs provided, run wires for power and relay connections.

   A. For 24 VDC Power, attach power wires to the terminals marked "DC IN, + and -". For 115 VAC operation, the unit is supplied with a power cord to plug into any 3 prong 115 VAC power outlet.

   B. Relays are normally de-energized, so connecting to the "C" and "NO" terminals will cause an electrical contact to be closed when the instrument senses gas that exceeds the alarm levels.

   Note : Wiring sizes for the relay connections must be adequately sized for the device to be driven. Wiring size for the power wires can be 22 gage or greater.

4. Gas sensor is the blue bell shaped device located on the end of the 30 foot cable. Locate the sensor in a face down direction near to where the gas would be expected to accumulate. Sensor can be secured by clamping either the sensor or the sensor wire to the wall. Do not drill holes through the sensor body. Sensor wires can be shortened if desired, and if so please take note of sensor wire colors and be sure to match them to the correct terminals after cutting.

5. Apply power to the PS-II to confirm proper connection and operation of all wires and external devices. Please note that during power up, the PS-2 will usually go into alarm condition for about 15 to 60 seconds. This is normal, and is a good time to confirm that all external alarming devices are also functioning.

6. After proper operation is confirmed, secure the housing cover in place with the 4 screws provided, and place the small blue caps over the screw holes.

Maintenance :

The PS-2 requires no normal maintenance other than to confirm operation and calibrate with a gas sample once every year or two, if possible. (Some gas mixtures are not practical to make into compressed gas calibration cylinders. Please consult factory to determine if your calibration can be made into cylinders. If cylinders are not practical, the unit can be sent to RKI for factory calibration periodically.)

Calibration :

Please note that the PS-2 units are calibrated before shipment, so initial calibration is not necessary unless the alarm levels need to be changed from the factory set levels. It is recommended that the calibration be confirmed on the PS-2 at least once per year. To do this, you will need the following equipment, which can be supplied by RKI Instruments :

1. Calibration gas cylinders at each of the alarm points.

2. Cylinder valve or regulator (desired flow rate is 0.5 liter per minute).

3. Sample tube and test cup to apply gas to sensors.

4. Small screwdrivers: (Phillips head to remove case screws and small flat blade to make calibration / alarm adjustments).

To Calibrate / Set Alarm levels, proceed as follows:

1. Remove front cover of the PS-2 by removing the 4 corner housing screws.

2. Connect the regulator, hose, and test cup to the Alarm 1 gas cylinder.

3. Secure the test cup to the sensor and let the gas flow onto sensor for approx. 60 seconds to allow time for full response.

4. While the gas continues to flow onto the sensor, with a fine flat blade screwdriver adjust the LOW ALARM potentiometer adjustment (located on the right hand side of the PCB just under the buzzer). Adjust the potentiometer as follows:

   A. If the buzzer is sounding and the yellow alarm light is lit, turn the potentiometer clockwise slowly until the yellow alarm light just goes out. Now, turn the potentiometer counter clockwise slowly until the alarm light (and buzzer) just goes on. Low alarm is now set.

   B. If the yellow light is not lit, turn the potentiometer slowly counter-clockwise until the yellow light just goes on. Low alarm is now set.

5. A. Disconnect the gas regulator from theAlarm 1 gas cylinder and connect it to the Alarm 2 gas cylinder. Allow approx. 60 seconds for full response.

   B. With the gas continuing to flow, adjust the HIGH ALARM potentiometer as described in step 4A or 4B above, while watching for the red light to come on. (note buzzer will sound during this entire stage because the low alarm level is exceeded).

6. When finished, remove the regulator from the gas cylinder to stop the flow, and replace the cover of the PS-2 housing.

Fuses : The PS-2 contains 2 fuses; a 1 amp fuse for the DC circuit, and a 250 ma (1/4 amp) fuse for the 115 VAC side.Both fusesare 4 mm x 20 mm type, and are clearly labeled on the PCB with the housing lid removed. Turn off power when replacing fuses.

For replacement parts, calibration equipment, repairs, or other information on this equipment, please contact RKI Instruments, Inc, 1855 Whipple Road, Hayward, CA, 94544, Phone (800) 754-5165, Fax (510) 441-5650 or contact us by visiting our web site at www.rkiinstruments.com.